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Research to advance the Development of River Information Services (RIS) Technologies

1st interim report
Reporting period 09/2014 – 09/2015
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14. ABSTRACT
The first reporting period has been focused on the evaluation of the actual status of the LOMA system which is currently being upgraded to revision 3.0. Also the work on compiling an inventory of state-of-the-art and emerging RIS initiatives in Europe has been started. This inventory will be further used for the creation of a gap-analysis of the RIS initiative in the US, focusing on possible opportunities by applying existing and emerging RIS technologies and services on US inland waterways.

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1 Abstract

The first reporting period has been focused on the evaluation of the actual status of the LOMA system which is currently being upgraded to revision 3.0. Also the work on compiling an inventory of state-of-the-art and emerging RIS initiatives in Europe has been started. This inventory will be further used for the creation of a gap-analysis of the RIS initiative in the US, focusing on possible opportunities by applying existing and emerging RIS technologies and services on US inland waterways.

2 Technical status

In order to learn and benefit from the lessons-learned with design, implementation and operation of RIS in Europe, the USACE as RIS Authority may want to build upon existing RIS experiences and lessons learned from Europe. During the research, the USACE showed special interest in learning from the experiences from RIS-enabled corridor management which is currently under development in Europe. This concept could be applied for an envisioned traffic management pilot on the Allegheny River system. In order to support the USACE in setting up a concept for this traffic management pilot the scope of work of this contract has been slightly re-focussed. Consequently also the content and wording of the research tasks has been adapted to better facilitate the planned activities.
Research task 1 has started with an analysis of the **status quo** of implementation of **RIS in the USA**. Since the Lock Operations Management Application (LOMA) as key component of RIS is still in the process of being upgraded to the full set of features of revision 3.0, the status quo analysis is still evolving. This analysis is of qualitative nature describing the already existing RIS components and comparing them to the RIS service portfolio to check for completeness. It further analyzes the standards and technologies in use and verifies their compatibility and compliance with international/European RIS standards. Once finished during the next reporting period, the status quo analysis will end with recommendations for improvement based on the mentioned qualitative analyses.
In parallel task 2, comprising the collection of a comprehensive **overview of the RIS service portfolio** currently operated or in development **in Europe** has been started. This overview will show potential areas for extension of the US RIS service portfolio in order to create benefits from RIS operations for a larger group of users. The overview will conclude with recommendations for the introduction of additional RIS services.
Finally the research task 3 will summarize the findings of the previous chapters and present a gap-analysis of the actual RIS implementation in the US. The research will propose a prioritized set of **measures for the further advancement of RIS on the US inland waterways**.

2.1 Task 1 – status quo of RIS in the USA

For task 1 the creation of an inventory of national RIS players and RIS initiatives has been started. The inventory of RIS players is focused on USACE departments and other governmental bodies. The RIS initiatives have been analyzed with respect to the RIS services and RIS technologies used. This inventory will be the basis for later gap analyses. On one hand for an analysis of the differences between European RIS initiatives and the activities in the USA and on the other hand for a gap-analysis of what services of technologies missing for the implementation of a traffic management pilot on the Allegheny River system.
Task 1 will further collect an inventory of US RIS-related regulation, which is not centrally regulated like the European RIS directive.

2.2 Task 2 – state of the art RIS service portfolio in Europe

Task 2 provides an explanation of the content and consequences of the European RIS directive as central element of RIS implementation and operation in the member states of the European Union. Further the technical directives which are annexes to the RIS directive are explained since they describe the key RIS technologies which are the common basis for RIS implementation in Europe. Finally the status of implementation of the key RIS technologies and RIS services in the European member states is presented as an overview.

Task 2 concludes with an inventory describing selected state-of-the-art RIS implementations and services in the European member states. Special focus is put on the new concept of RIS-enabled Corridor Management.

2.3 Task 3 – recommendations for the advance of RIS Technologies

Task 3 has not started yet. Focus will be put on three main items

1. Recommendations for the enhancement of the LOMA system
2. Recommendations for the implementation of additional RIS capabilities
3. Basic concept and gap-analysis for the Allegheny River system traffic management pilot

3 Risks

So far the work is progressing as planned and no risks have been identified.
Though, since the traffic management pilot on the Allegheny River system is planned to start as soon as possible, it may be challenging to allocate the necessary research personnel to provide inputs in time.

4 Business status

Following the indicative payment plan the following amount is invoiced: **USD 59,713.00**

First reporting period:	USD 59,713.00 (09/2014 – 09/2015)
Second reporting period:	USD 59,713.00 (10/2015 – 06/2016)
Final reporting period:	USD 29,856.00 (07/2016 – 08/2016)
Total:	**USD 149,282.00**